

## CLAIMS

I/We claim:

1. A retractable sootblower of the type having a frame, a movable carriage supported by the frame, a lance tube being movable with the carriage and having an extended and retracted position, a motor for driving the movable carriage and lance tube between the extended and retracted positions, the retractable sootblower comprising:

a limit switch mounted on the carriage for movement therewith along the frame;

a first switch control device positioned such that the limit switch will sense the first switch control device when the lance tube is in the extended position;

a second switch control device positioned such that the limit switch will sense the second switch control device when the carriage is in the retracted position; and

a controller electrically coupled to the limit switch and configured to reverse the motor travel in response to the limit switch sensing the first switch control device.

2. The retractable sootblower of claim 1, wherein the limit switch is a proximity switch.

3. The retractable sootblower according to claim 1, wherein the first switch control device is mounted to the frame.

4. The retractable sootblower according to claim 1, wherein the second switch control device is mounted to the frame.

5. The retractable sootblower according to claim 1, wherein the position of the first switch control device is adjustable.

6. The retractable sootblower according to claim 1, wherein the position of the second switch control device is adjustable.

7. The retractable sootblower according to claim 1, wherein the first switch control device includes a magnet.

8. The retractable sootblower according to claim 1, wherein the second switch control device includes a magnet.

9. The retractable sootblower according to claim 1, wherein the limit switch is mounted inside the frame.

10. The retractable sootblower according to claim 9, wherein the limit switch is mounted close to the carriage pinion shaft center line.

11. The retractable sootblower according to claim 1, wherein the controller is configured to store a forward state, a reverse state, and a rest state.

12. A method for controlling a retractable sootblower having a lance tube and a carriage comprising:

initiating forward travel of the carriage thereby extending the lance tube;

sensing the limit switch is proximate a first switch control device;

dispersing a cleaning medium from the lance tube;

reversing the direction of travel of the carriage thereby retracting the lance tube; and

sensing the limit switch is proximate to a second switch control device.

13. The method according to claim 12, further comprising:

sensing the limit switch is not proximate to a second switch control device.

14. The method according to claim 12, further comprising:

sensing the limit switch is not proximate to the second switch control device.

15. The method according to claim 12, further comprising:

sensing the limit switch is proximate to the second switch control device.

16. The method according to claim 12, comprising:

setting a forward state in the controller.

17. The method according to claim 12, further comprising:  
setting a rest state in the controller.
18. The method according to claim 12, further comprising:  
setting a reverse state in the controller.
19. The method according to claim 12, further comprising:  
setting a rest state after sensing the limit switch is proximate to a  
second switch control device.
20. The method according to claim 12, further comprising:  
setting a reverse state after sensing the limit switch is not proximate to  
a first switch control device.
21. The method according to claim 12, further comprising:  
setting a forward state after the limit switch is not proximate to a  
second switch control device.
22. The method according to claim 12, further comprising:  
reversing the direction of travel of the carriage after sensing the limit  
switch is proximate to a first switch control device.